

U.S. Patent Application Serial No. **10/647,237**
Supplemental Amendment filed October 24, 2006
Reply to OA dated March 8, 2006

REMARKS

Claims 1 and 3-21 are pending in this application as of the Amendment filed on September 6, 2006. The present Supplemental Amendment amends claims 1, 5, 6 and 20. Upon entry of this amendment, claims 1 and 3-21 will be pending.

No new matter has been added by these amendments. Support for the amendments is discussed below.

Summary of telephone interviews with the Examiner:

Examiner Lee contacted Applicant's agent, Daniel Geselowitz, on September 20, 2006. The Examiner stated that he believed that the general subject matter in the claims would be allowable if issues under 35 U.S.C. 112, first paragraph and second paragraph, could be overcome. Specifically, the Examiner indicated that the wording of "surface" and "face" in claim 1 was confusing, with regard to the difference between the physical surface and the crystal orientation. The Examiner also indicated that the wording regarding the "other parts" in claims 5 and 6 was unclear.

Applicant also conducted a brief telephone interview with the Examiner on October 16, 2006, to discuss possible claim amendments. Applicant agreed to submit a Supplemental Amendment amending the claims for clarity, with explicit explanation of support for the wording of the claims.

Claims 1, 3-19, 20 and 21 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112, second paragraph.

Applicant has amended claims 1, 5, 6 and 20, for clarity.

In the amendment to claim 1, in the first clause, the wording “a surface of the face (001), (100) or (010)” has been amended to --an input face of orientation (001), (100) or (010)--. The amended wording refers specifically to the input face in Fig. 4, which appears as the YZ face receiving input signal 211 (see paragraph beginning at page 11, line 13, as amended on November 17, 2005). As amended, “face” refers to a physical face of the crystal,, and “orientation” refers to the crystal plane defining the direction of the face.

The magnesium oxide block is also recited to have other faces, “each of orientation (001), (100) or (010)”, which refers to the “XY face, XZ face, and YZ face excepting an input port face and an output port face,” as disclosed in the paragraph bridging pages 11-12 of the specification. These faces may be seen in Fig. 4.

Claim 1, line 4, recites the “first copper oxide superconducting film disposed on each of said other faces,” also disclosed in the paragraph bridging pages 11-12 of the specification.

Similarly, claim 1, line 7, has been amended to recite “a face of orientation (001), (100) or (010)” in the second single crystal magnesium block, and lines 10 and 11 clarify that the film is “in a c-axis crystal orientation perpendicular to said face of said single crystal magnesium oxide block.” This wording is generally supported by the disclosure on page 12, lines 5-6, that the

“superconducting film 203 is formed to have a c-axis crystal orientation perpendicular to the face of the MgO block 201,” that is, perpendicular to the face on which it is disposed.

The last clause of claim 1 has been amended to clarify that the “face oriented at a 45 degree angle” is “a face oriented at a 45 degree angle to said input face, so as to have orientation (011), (101) or (110)” Support for this wording may be found in the paragraph beginning at page 11, line 13 (as amended), and the 45 degree face may be seen toward the lower right of block 203 in Fig. 4, facing MgO block 206, which has superconducting film 205.

Claim 20 has been amended similarly to claim 1.

Claim 5 has been amended to clarify the recited structure. Line 2 of the claim has been amended to recite “a bonding film provided on said first copper oxide superconducting film” This bonding film is disclosed, for example, as bonding film 204 on page 12, bottom paragraph, of the specification, which discloses that this film is formed by coating a silver paste on a face of the copper oxide superconducting film 203. The recitation regarding the other parts to which the bonding film is bonded has been deleted.

Claim 6 has been amended to structurally recite that “a fixture attached to said first single crystal magnesium block ... and bonded to said first copper oxide superconducting film,” and the recitation regarding the other parts has been deleted.

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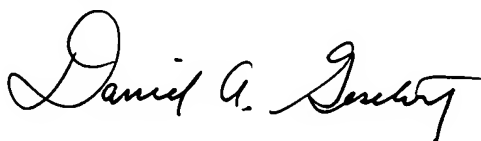
In view of the aforementioned amendments and accompanying remarks, the claims, as amended, are in condition for allowance, which action, at an early date, is requested. Reconsideration of the rejections and objections is respectfully requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the Applicant's undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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